L8: Entry 3 of 18 File: USPT Mar 30, 1999

DOCUMENT-IDENTIFIER: US 5887584 A
TITLE: Solar energy absorbing device for melting snow from an inclined roof

Detailed Description Text (6):
Placing thermal energy absorbing device 20 on the lower portion of roof 12 in contact with, and preferably at least partially buried in, accumulated snow 14 will help facilitate the rapid melting of accumulated snow 14. Energy absorbing device 20 contacts roof 12 with any three adjacent knobs 26 and is thus stable in any orientation to maintain its desired location on roof 12 without tumbling or rolling off roof 12. Although shingles 13 absorb some solar energy and transfer that energy to accumulated snow 14 to assist in the melting thereof, this is accomplished only at the peripheral edges of accumulated snow 14 and does not facilitate a rapid thawing of the snow. With one or more of thermal energy absorbing devices 20 placed in accumulated snow 14 at least one and preferably more of rod segments 22 protrude from snow 14 and are exposed to solar rays. The dark color and the thermal absorptive characteristics of device 20 readily transfer the absorbed solar energy to others of rods 22 which are embedded in the snow and in turn transfer the energy to the snow 14 and thus hasten the melting of the snow in the area surrounding device 20 and exposing additional roof area to further hasten melting of the snow, thereby minimizing the exposure of shingles 13 to water trapped by accumulated snow 14.

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L4: Entry 41 of 47 File: USPT Feb 13, 1973

DOCUMENT-IDENTIFIER: US 3715917 A
TITLE: NON-ROUND FLUID DYNAMOMETER

Detailed Description Text (3):
In use, a device to be tested mechanically is coupled to the shaft 18 by means of coupling 24. Simultaneously water is admitted to the interior of the inner housing through the inlet 26 where it is acted upon by the rotors 16 so that the water absorbs energy in the form of heat. The hot water is then exhausted through a number of ports 28 into the chamber 13 between the inner and outer housings and is exhausted through the outlet 30.

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L4: Entry 38 of 47 File: USPT Aug 25, 1981

DOCUMENT-IDENTIFIER: US 4286136 A
TITLE: Cooking container for more efficient cooking in a microwave oven

Brief Summary Text (4):
Foods consist mostly of liquids or moisture. On a cellular level, organic foods consist of approximately 80% water. The reason for heating foods is to soften the cell walls so that the nutrients are more readily available. When the cell walls are uncooked, there is more need for physical means to break down the cellular content of the food via chewing. Conversely, when a food is over-cooked, the cell walls are either burned or they lose their water. Loss of water also makes the food unpalatable. Also, the nutrients are often lost with the water vapor. In microwave cooking the water absorbs the energy and heats the solid portion by conduction. We are concerned with even equal heating of the food so that all the food attains the same degree of cell softening in the same period of time. This provides optimum availability of nutrients.

L4: Entry 31 of 47 File: USPT Jul 2, 1985

DOCUMENT-IDENTIFIER: US 4527162 A
TITLE: Radiometer

Brief Summary Text (5):
Liquid water absorbs energy above about 10 GHz, and hence rain storms can significantly attenuate the signals to and from a satellite. A radiometer of the type provided by the present invention can be used to measure and record the levels of such attenuation experienced at a chosen location over a period of time, thus helping to assess the suitability of such location for the installation of a satellite communication ground station. In addition, the data so generated can be used to help design the station itself, i.e. in terms of such considerations as power, sensitivity and the type of antenna most suited to the job, as well as providing an estimate of the likely percentage of operating time that the station can be expected to be effectively out of action due to rain storms. By taking such measurements simultaneously at one or more additional locations, the improvement in performance which would be obtained using site-diversity can be determined.

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L4: Entry 24 of 47 File: USPT Jun 13, 1995

DOCUMENT-IDENTIFIER: US 5424519 A
TITLE: Microwaved-activated thermal storage material; and method

Brief Summary Text (4):
Thermal storage arrangements (whether heated by exposure to microwave energy or otherwise) have been widely used for a variety of purposes. Those which are activated by microwave energy have been used, for example, as heat cushions. One such arrangement utilizes as a thermal storage unit an absorbent polyurethane foam substrate which is soaked with water and which is encased in a de-aerated bag. Water, a high specific heat substance, is the microwave-sensitive energy absorber in such a system. Upon exposure to microwave energy, the water absorbs the energy and heats up. The polyurethane foam homogenously spreads the water over a greater area. It also operates as an insulator, which retards dissipation of heat from the water.

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L4: Entry 22 of 47 File: USPT Oct 1, 1996

DOCUMENT-IDENTIFIER: US 5560351 A
TITLE: Transtracheal energy application and sensing system for intubation: method and apparatus

Detailed Description Text (6):
Generally, electromagnetic radiation having a wavelength between about 550 nm and about 5,500 nm may be utilized in the practice of the invention. The intensity of the incident radiation will depend on the wavelength thereof and the sensitivity of the detector. The energy transmission through tissues is strongly influenced by the wavelength of the incident energy. Wavelengths above about 600 nm penetrate tissues up to 10,000 times better than shorter wavelengths due to less reflection and absorption and more forward scattering of the radiant energy. However, water absorbs energy more efficiently as wavelengths increase above 1,300 nm setting the practical upper limit wavelength in the region stated. Those practiced in the art of electromagnetic/sound detection must ultimately define the intensity and frequency of incident radiation/sound energy necessary for reliable detection after transillumination. As sensor technology continues to improve, incident radiation and sound intensities required for reliable energy detection will be adjusted downward.

L4: Entry 16 of 47 File: USPT Nov 2, 1999

DOCUMENT-IDENTIFIER: US 5974728 A
TITLE: Method and apparatus for the non-toxic control of insects and weeds

Detailed Description Text (5):
Before passing through the sprayer jets 34, the water is heated in the vehicle 10. In one embodiment, the water passes through the intake to a pair of plastic coils 40, each of which are located within a microwave oven 38, which heat the water to a temperature of approximately 150.degree. C. (FIGS. 3 and 4). Microwave ovens should not be used in conditions where there is the possibility of leaking, however, where the microwave ovens can be enclosed around the coils, it is acceptable. The coils 40 are made of plastic to allow the microwaves to pass through the coils and into the water contained therein. A reflective surface 42 should be in the center of the water coils and on the walls 44 of the microwave oven to increase the efficiency of the oven. While metals do not absorb heat, paper, glass, and most plastics allow microwave to pass through, allowing the water to absorb the energy produced by the microwave.

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L4: Entry 6 of 47 File: USPT Apr 23, 2002

DOCUMENT-IDENTIFIER: US 6376290 B1
TITLE: Method of forming a semiconductor thin film on a plastic substrate

Detailed Description Text (3):
FIG. 1A to FIG. 1D, FIG. 2A to FIG. 2C and FIG. 3 show a method of forming a thin film transistor of an embodiment of the invention in order of manufacturing step. First, initial cleaning is performed on a surface of a substrate 11 made of plastic having a thickness of 200 .mu.m, for example, with a neutral detergent and pure water (H.sub.2 O). Next, as shown in FIG. 1A, the substrate 11 is radiated with a UV pulse laser beam with energy in the range of 50 to 350 mJ/cm.sup.2 for removing volatile contaminants such as water and organic substances deposited on the substrate 11. With radiation of UV pulse laser beam, water absorbs energy and rapidly rises in temperature. Water then evaporates. Organic substances absorb energy and store up vibration energy. Regular vibrations which are produced by this vibration energy, cause; and substances to be discharged from the substrate. (See Andrew C. Tam, Wing P. Leung, Werner Zapta and Winfrid Ziemlich, J. Appl. Phys., 71 (1992) p. 3515.)